AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

Claims 1-19 (Cancelled)

20. (New) A method of arc welding a fastener to a coated metal structure comprising:

positioning the fastener in contact with the coating;

moving the fastener relative to the metal structure to break up the coating so as to produce electrical contact between the fastener and the metal structure.

21. (New) The method according to Claim 20 further comprising moving the fastener relative to the metal structure by rotating the fastener in an oscillating motion about a lengthwise axis of the fastener.

22. (New) The method according to Claim 20 further comprising moving the fastener relative to the metal structure by translating the fastener in an axis perpendicular to the lengthwise axis of the fastener.

23. (New) The method according to Claim 20 further comprising applying one of vacuum or air pressure to clear away paint debris.

24. (New) The method according to Claim 20 wherein the fastener has a head having at least one elevation projecting from the head.

25. (New) The method according to Claim 24 further comprising scoring the coating with the elevation.

26. (New) The method according to Claim 25 wherein the elevation is an annular weldment projection.

27. (New) The method according to Claim 20 further comprising applying a cleaning electrical current to the fastener, said current forming a cleaning arc between the fastener and the metal structure.

28. (New) The method according to Claim 27 wherein applying a cleaning electrical current is applying a current which alternates polarity.

29. (New) The method according to Claim 27 wherein applying a cleaning current is applying a current between about 20 to about 500 amps.

30. (New) The method according to Claim 27 further including lifting the fastener off the surface prior to applying the cleaning electrical current.

31. (New) The method according to Claim 27 further comprising changing the polarity of the cleaning current and increasing the cleaning current to between 500 and 1500 amps to establish a welding current to weld the fastener to the structure.

32. (New) The method according to Claim 27 further comprising deflecting the cleaning arc utilizing a magnetic field.

33. (New) The method according to Claim 32 wherein deflecting the cleaning arc is deflecting the arc about a closed area around a lengthwise axis of the fastener.

34. (New) A device for arc welding fasteners to a coated sheet metal structure comprising:

a welding head configured to hold the fasteners;

a power supply to supply electrical energy to the fastener; and

a mechanism for moving the welding head relative to the sheet metal structure, wherein the mechanism is configured to drive the fastener in an oscillating motion about a lengthwise axis of the fastener.

35. (New) The device according to Claim 34 further comprising a holder provided to accommodate the fastener to be welded.

36. (New) The device according to Claim 34 wherein the welding head comprises a magnetic drive to generate oscillating motion about the lengthwise axis.

37. (New) The device according to Claim 35 wherein the holder is coupled to a drive lever having a radial segment moveable from a first position to a second position between two mutually opposed coils.

38. (New) The device according to Claim 35 wherein the holder is coupled to an eccentric drive to generate the oscillating motion about the lengthwise axis.

39. (New) The device according to Claim 35 wherein the holder is moveable in a first and second direction relative to the structure.

40. (New) The device according to Claim 34 further comprising a linear drive coupled to the weld head.

41. (New) The device according to Claim 34 wherein a weld head defines an opening which is configured to be connected to a source of one of vacuum or compressed air.

42. (New) The device according to Claim 34 further comprising a electro-magnet configured to generate a magnetic field to deflect an electronic arc set up between the fastener and the structure on a closed path about a lengthwise axis of the fastener.

43. (New) A device for arc welding a fastener to a coated sheet metal structure comprising:

a welding head configured to hold the fastener;

a power supply configured to supply electrical energy to the fastener; and

a means for moving the fastener relative to the sheet metal to as to cause the fastener to fracture the coating.

44. (New) The device according to Claim 43 comprising a means for oscillating the fastener about a longitudinal axis of the fastener.

45. (New) The device according to Claim 43 comprising a means for moving the fastener perpendicular to a longitudinal axis of the fastener.

46. (New) The device according to Claim 43 comprising a means for applying a cleaning current so as to produce a cleaning arc between the fastener and the structure.

47. (New) The device according to Claim 43 comprising a means for applying a welding current between the fastener and the structure.

48. (New) The device according to Claim 43 comprising a means for supplying one of a vacuum or air pressure to the fastener.

49. (New) The device according to Claim 46 comprising a means for generating a magnetic field to deflect the cleaning arc.